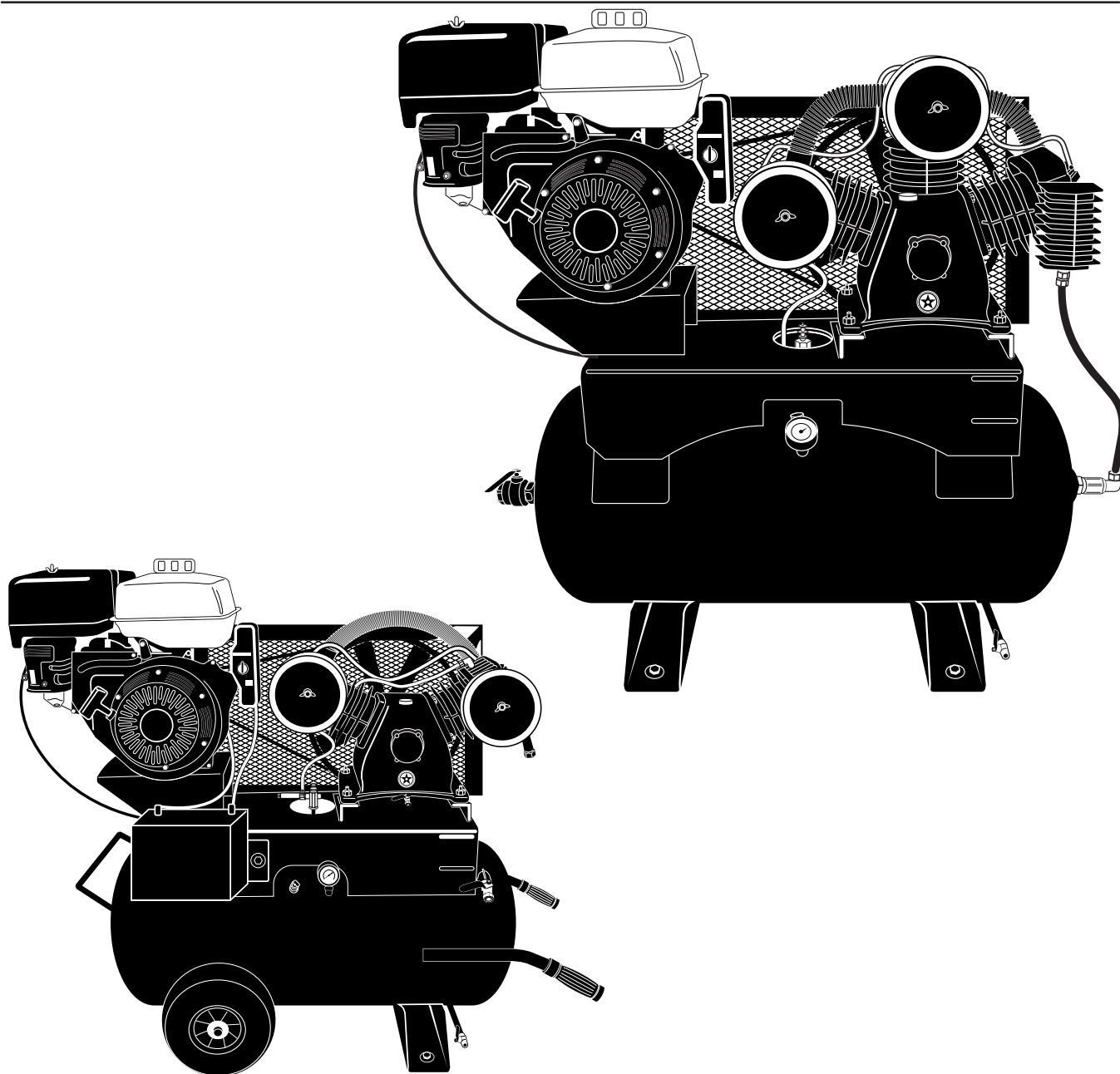




Operating Instructions

GAS POWERED PISTON COMPRESSORS

*Polar Air designs and manufactures products for safe operation. However, operators and maintenance persons are responsible for maintaining safety. All safety precautions are included to provide a guideline for minimizing the possibility of accidents and property damage while equipment is in operation. **Keep these instructions for reference.***



Contents

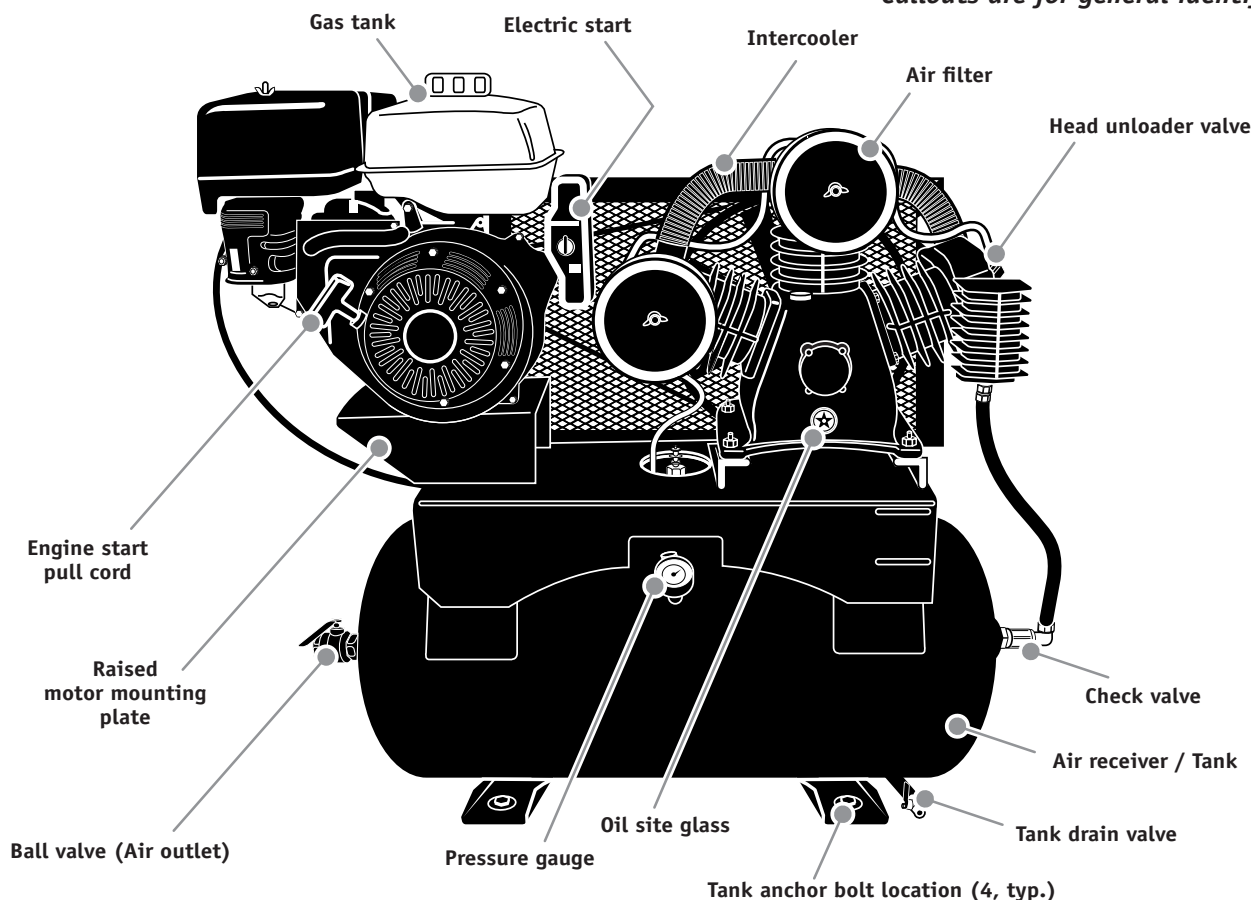
	Page No.		Page No.
Model Specification Chart	2	Operation	6
Description	3	Safety Rules	6
Safety Information	3	Start Up	7
Tag Definitions	3	Maintenance	8
Basic Guidelines	3	Safety Steps	8
Breathable Air	4	Belt Adjustment	8
Pressurized Components	4	Changing Oil	8
Personal Protective Equipment	4	Safety Valve	9
Inspection	4	Tank	9
Forklift Safety	4	Maintenance Schedule	9
Lifting Safety	4	Troubleshooting	10-11
Installation	5	Warranty	12
Area	5		
Piping Safety Steps	5		
Piping / Tank Installation	5		
Truck Installation	6		
Battery Component	6		

Polar Air Gas Powered, Piston Air Compressors

Model	PGPS0817WL	PGES0817WL	PGES1330ST	PGES1830ST	PGES1860ST	PGES2480ST
Description	8 HP HONDA PORTABLE	8 HP HONDA	13 HP, 30 GAL. HONDA	18 HP, 30 GAL. HONDA	18 HP, 60 GAL. HONDA	24 HP, 80 GAL. HONDA
SCFM	18 @ 150	18 @ 150	24 @ 175	34 @ 175	34 @ 175	52 @ 175
Motor Power	8HP	8HP	13HP	18HP	18HP	24HP
Motor RPM	3200	3200	3200	3200	3200	3200
Tank Size	17	17	30	30	60	80
Pump Model	APP2V0732S	APP2V0732S	APP3Y0732T	APP4V1043T	APP4V1043T	APP3Y2062T
Pump RPM	650	650	820	800	800	640
Outlet Size	3/4"	3/4"	3/4"	3/4"	3/4"	1"
Dimensions ^{L•W•H} (inches)	46"x 21"x 37"	46"x 21"x 37"	51"x 23"x 40"	44"x 23"x 44"	51" x 23"x 50"	72"x 25"x 50"
Weight (lbs.)	275	275	395	540	610	870
Shipping Weight	310	310	326	628	703	970
Electric Start	No	Yes	Yes	Yes	Yes	Yes

Description

*Unit configuration and appearance varies by model.
Callouts are for general identification.*



Safety

This manual contains very important information to know and understand. This is provided for **SAFETY** and to **PREVENT EQUIPMENT PROBLEMS**. To help understand this information, observe the following:

⚠ DANGER Danger indicates an imminently hazardous situation which, if not avoided, *will* result in death or serious injury.

⚠ WARNING Warning indicates a potentially hazardous situation which, if not avoided, *could* result in death or serious injury.

⚠ CAUTION Caution indicates a potentially hazardous situation which, if not avoided, *may* result in minor or moderate injury.

NOTICE Notice indicates important information, that if not followed, may cause damage to equipment.



Read all manuals included with this product carefully. Be thoroughly familiar with the controls and the proper use of the equipment.

Basic Guidelines

1. Allow only trained, authorized persons who have read and understood these operating instructions to use this compressor. Failure to follow the instructions, procedures and safety precautions in this manual can result in accidents and injuries.
2. NEVER start or operate the compressor under unsafe conditions. Tag the compressor, disconnect and lock out all power to it to prevent accidental start-up until the condition is corrected.
3. Install, use and operate the compressor only in full compliance with all pertinent OSHA regulations and all applicable Federal, State & Local Codes, standards and regulations.
4. NEVER modify the compressor and/or controls in any way.
5. Keep a first aid kit in a convenient place. Seek medical assistance promptly in case of injury. Avoid infection by caring for any small cuts and burns promptly.

Breathable Air

1. NEVER use air from this compressor for breathable air except in full compliance with OSHA Standards 29 CFR 1910 and any other Federal, State or Local codes or regulations.

⚠ DANGER



Death or serious injury can result from inhaling compressed air without using proper safety equipment. See OSHA standards on safety equipment.

2. DO NOT use air line anti-icer systems in air lines supplying respirators or other equipment used to produce breathable air. DO NOT discharge air from these systems in unventilated or other confined areas.

Pressurized Components

This equipment is supplied with a ASME designed pressure vessel protected by an ASME rated relief valve. Pull the ring *before each use* to make sure the valve is functional. Refer to figure _____. DO NOT attempt to open valve while the machine is under pressure.

Personal Protective Equipment

Be sure all operators and others around the compressor and its controls comply with all applicable OSHA, Federal, State and Local regulations, codes and standards relating to personal protective equipment. This includes respiratory protective equipment, protection for the extremities, protective clothing, protective shields and barriers, electrical protective equipment, and personal hearing protective equipment.

Inspection

⚠ WARNING



Inspect compressor prior to any use. Check for external damage that might have occurred during transit. *Be careful of moving parts* then test pulley by turning it freely by hand. **Report any damage to delivery carrier immediately.**

⚠ CAUTION

Make sure pallet-mounted compressors are firmly secured to the pallet before moving. NEVER attempt to move a compressor that is not secure as serious injury or property damage could occur.

A forklift may be necessary for unloading the Polar Air compressor. Use all forklift safety measures and require a certified forklift operator. Refer to figure 1 for safe unloading procedure.

Forklift Safety

1. Make sure lift operator stays aware while moving compressor.
2. Be sure load is secure and well balanced before moving the compressor.
3. Make sure forks are fully engaged and level before lifting or moving compressor.
4. Keep load as low as possible and observe safe operating practices.

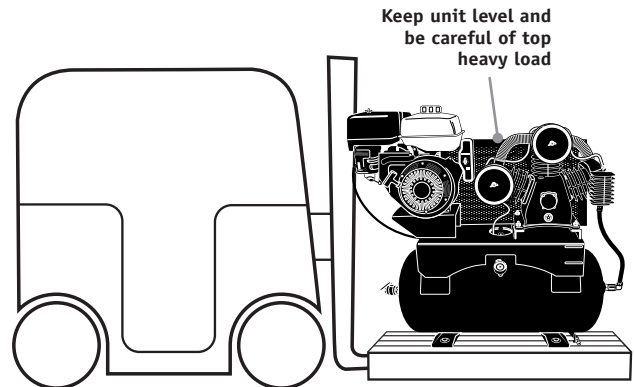


Figure 1: Keep unit level

Lifting Safety

1. Carefully inspect all lifting equipment and make sure it is in good condition. Rated capacity should exceed compressor weight. Make sure lifting hook has a functional safety latch or equivalent and is properly attached to lifting feature.
2. Make sure lifting points are in good condition and tighten any loose nuts or bolts before lifting.
3. Use provided lifting feature or appropriate sling. A sling must be used when moving compressor with a helicopter or other air-borne equipment. Be sure to follow OSHA standards 29 CFR 1910 Subpart N.
4. Use guide ropes or equivalent to prevent twisting or swinging of the compressor while it is in the air and NEVER attempt to lift in high winds. Keep compressor as low to the ground as possible.
5. Keep persons away and make sure no one is under the compressor while it is lifted.
6. Only use lifting features provided for entire compressor package. NEVER use bolts or other hooks on individual components to move the compressor.
7. Make sure to put compressor on a level surface that can support the weight of the compressor and loading equipment.

⚠ WARNING

Do not operate unit if damaged during shipping, handling or use.

Damage may result in bursting and cause injury or property damage.

Installation

Area

1. Install compressor in a clean, dry and well-lit area. Be sure installation area can maintain a temperature range between 35° - 110° F.

⚠ CAUTION *If ambient temperature drops below 32°F, be sure to protect safety/relief valves and drain valves from freezing. NEVER operate compressor with temperatures below 15°F or above 125°F.*

2. Allow sufficient space around compressor for maintenance access and adequate airflow. Mount unit with pulley towards wall and leave a minimum of 15 inches of clearance.
3. Use shims to level compressor if installation area is not flat. This will avoid excessive vibration and premature pump wear.

⚠ DANGER *DO NOT install compressor in boiler room, paint spray room, or area where sandblasting occurs. Make sure inlet air is away from exhaust fumes or other toxic, noxious or corrosive fumes or substances.*



4. If acid is used in operating environment or air is dust laden, pipe intake to outside, fresh air. Increase pipe size by one size for every 20 feet of run. Be sure to install protective hood around intake filter.
5. Insulate cold water or other low temperature pipes that pass overhead to avoid condensation dripping on compressor which could cause property damage.

Piping

Safety Steps

1. Install appropriate flow-limiting valves as necessary according to pipe size(s) used and run lengths. This will reduce pressure in case of hose failure, per OSHA Standard 29 CFR 1926.302(b)(7).
2. Flow-limiting valves are listed by pipe size and rated CFM. Select appropriate valves accordingly, in accordance with the manufacturer's recommendations.

Piping / Tank Installation

1. Place tank feet on 1/4" thick rubber pads.

Minimum Pipe Size For Compressed Air Lines (Pipe size shown in inches)

SCFM	Length Of Piping System			
	25 ft.	50 ft.	100 ft.	250 ft.
20	3/4	3/4	3/4	1
40	3/4	1	1	1
60	3/4	1	1	1
100	1	1	1	1-1/4

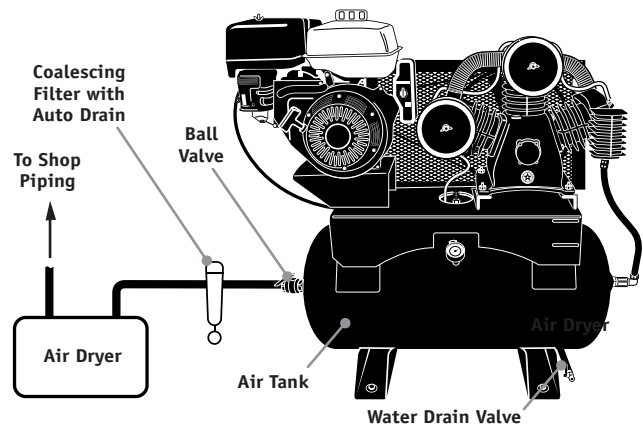


Figure 2: Basic Piping Diagram

Thicker padding will increase vibration and the possibility of cracking the tank or other unit damage. **Do not place unit on dirt floor or uneven surface.**

2. Fasten anchor bolts snugly but do not overtighten so normal vibration will not damage unit.

⚠ DANGER *Compressor unit is top heavy and must be bolted to solid, flat surface to avoid falling and premature pump wear. Splash lubrication will not operate properly if unit is not level.*

3. Use a flexible connector between compressor tank and piping system to minimize noise, vibration, unit damage, and pump wear.
4. Install appropriate ASME code safety valves and make sure piping system is equipped with adequate condensate drains. See figure 2.

⚠ WARNING *Never install a shut-off valve such as a glove or gate valve, between the pump discharge and the air tank unless a safety valve is installed in the line between valve and pump.*



5. Make sure any tube, pipe or hose connected to the unit can withstand operating temperatures and retain pressure.

▲ WARNING *Never use plastic (PVC) pipe for compressed air. Serious injury or death could result.*

6. Never use reducers in discharge piping. Keep all piping and fittings the same size in the piping system.
7. For permanent installations of compressed air systems, determine total length of system and select correct pipe size. Make sure underground lines are buried below frost line and avoid areas where condensation could build up and freeze.
8. Test entire piping system *before* underground lines are buried. Be sure to find and repair all leaks before using compressor.

▲ WARNING *Never exceed recommended pressure or speed while operating compressor.*

Truck Installation

Compressor can be installed in a truck for convenience and portability. Be sure to follow these additional safety precautions:

1. Bolt compressor to truck bed with 1/4" thick rubber pads under tank feet. Thicker padding will increase vibration and the possibility of cracking the tank or other unit damage.
2. Portable compressors must be secured during transport and while operating to avoid unit damage.

▲ DANGER *If installation is in a box truck or other enclosed area, be sure to vent exhaust fumes away from operating area. Gasoline powered motors will develop hydro-carbons which can be fatal if inhaled.*



Battery Component

Most Polar Air compressors are equipped with an electric starter but require a customer supplied, 12V battery for operation. Be sure to follow safety steps and use proper procedures when connecting battery.

Safety Steps

▲ WARNING *Batteries contain caustic acid. Use extreme care when handling to avoid contact with battery acid. If contact occurs, flush immediately with water then use baking soda to neutralize.*



1. Wear eye protection at all times when handling battery.
2. Batteries can give off explosive gases. NEVER

smoke or install battery near sparks or other ignition sources.

▲ CAUTION



NEVER touch both battery terminals at the same time with hands or any non-insulated tools. Always follow proper sequence for connecting and disconnecting battery.

Connecting Battery

1. Use minimum 10 AWG wire for battery cables.
2. Connect positive (+) cable to start solenoid on engine.
3. Connect negative (-) cable to one of the engine bolts.
4. Connect other end of positive (+) cable to positive (+) battery terminal.
5. Connect other end of negative (-) cable to negative (-) battery terminal.

Disconnecting Battery

1. Disconnect negative (-) cable from negative (-) battery terminal first.
2. Then disconnect positive (+) cable from positive (+) battery terminal.

Operation

Safety Rules

1. Make sure all operators receive product training, read and understand all instructions.

▲ WARNING



Keep all flammable, combustible, poisonous and noxious materials away from operating area. Make sure there are no oily rags, trash, leaves, litter or other combustible materials in operating area. Keep suitable, fully charged fire extinguishers nearby when servicing and operating the compressor.

2. **NEVER** allow modifications to compressor structure or controls.
3. Keep all ignition sources away from exposed electrical parts.
4. Keep all persons clear of compressor during start-up and operation.
5. NEVER operate the compressor with the fan, coupling or other guards removed.
6. DO NOT engage in horseplay with air hoses as death or serious injury may result.

7. Make sure to provide adequate ventilation and use proper lubricant while operating the compressor. If lubricant or other combustible substances are spilled, clean up immediately.
8. When checking or adding lubricant or when refilling air line anti-icer systems with antifreeze compound, shut off compressor and allow it to cool. Keep sparks, flames and other ignition sources away and DO NOT permit smoking in the vicinity.
9. Stop compressor and disconnect power if a hazardous condition arises.
10. Wear snug fitting clothing and confine long hair when around compressor. Keep all body parts and clothing away from couplings, flywheel and other moving parts of the equipment.

▲ WARNING


Keep all persons away from the discharge opening of hoses or tools or other points of compressed air discharge. If the machine is installed in an enclosed area, be sure to vent the relief valve outside

of the structure or to an unoccupied area.

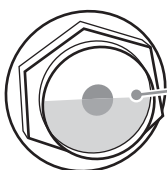
11. DO NOT use air tools that are rated below the maximum rating of the compressor. Select air tools, air hoses, pipes, valves, filters and other fittings accordingly. DO NOT exceed manufacturer's rated safe operating pressures for these items.
12. Make sure all hose connections are adequately secured to prevent tools or hose ends from being accidentally disconnected.

▲ CAUTION


Thoroughly read and understand engine owner's manual. Be sure to follow manufacturer's safety precautions and proper operating procedures.

Start-Up

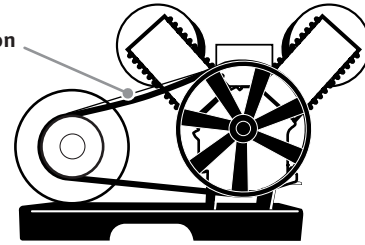
1. This unit is shipped with pump break-in oil and should be ready to operate. Be sure to check for proper oil level before operating the compressor. Oil should be in center of site glass. See figure 3.



Oil level should be to center of red circle in site glass

Figure 3: Check proper oil level

1/2" deflection


Figure 4: Proper belt tension
NOTICE

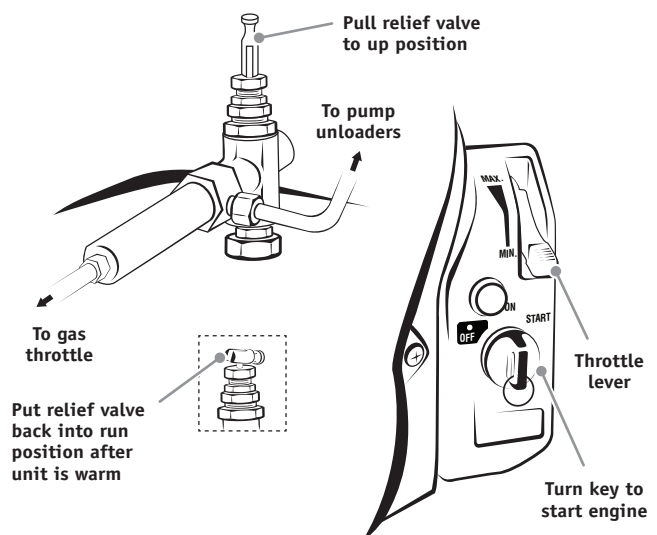
Use only Airbase Industries oil (PN: AP0L03000G1). Use of any other product will cause product damage and void the warranty.

2. Check for proper belt tension. There should be 1/2 inch slack. See maintenance section if adjustment is necessary. Refer to figure 4.

▲ WARNING


Always make sure main power is off before touching belts or other moving parts of compressor.

3. Make sure no tools are attached to air hose before starting engine.
4. Pull pressure relief knob to up position to release head pressure and for easy starting. Failure to open pressure relief valve will cause electric start motor to overheat. See figure 5.
5. Turn on gas line valve. (Not supplied on 18 & 24 Hp models because fuel tank is not mounted.)
6. For cold engine start, move choke lever to full choke position. For engines that are already warm, place lever in half choke or run position.


Figure 5: Starting Procedure

7. Start engine by turning key or with pull start cord.

NOTICE

If ignition fails to start engine after 5 seconds, release key and wait 10 seconds before trying again. Continuously trying to crank starter can overheat and damage starter motor.

8. After engine starts, move choke lever to run position.
9. Allow engine to warm up then turn pressure relief knob to run position.
10. Keep ball valve open for approximately 20-30 minutes before initial use to allow for pump break-in period. Be sure to close ball valve for unit to build pressure for proper operation.

Maintenance

Safety Steps

⚠ WARNING



Disconnect, tag and lock out power source then release all pressure from the system before attempting to install, service, relocate or perform ANY maintenance.

1. Make sure repairs are done in a clean, dry, well lighted and ventilated area.
2. Disconnect engine spark plug wire before performing any maintenance or repairs.
3. When cleaning, use air pressure less than 30 psig (2.1bar). NEVER use flammable solvents for cleaning purposes. Also use effective chip guarding and personal protective equipment per OSHA standard 29 CFR 1910.242 (b).
4. Relieve all internal pressure prior to opening any line, fitting, hose, valve, drain plug, connection or other component, such as filters and line oilers, and before refilling optional air line anti-icer systems with antifreeze compound.

⚠ CAUTION



Compressor components can become hot during operation. Avoid bodily contact with hot liquids, hot surfaces and sharp edges and corners.

Belt Adjustment

⚠ WARNING



Be sure to relieve all system pressure then lock out power and tag compressor to prevent unexpected movement of the unit.

Inspect belt tension after first 30 hours of operation then every 30 days.

1. Proper belt tension is determined by pressing on belt midway between motor pulley and flywheel. There should be approximately 1/2 inch of deflection. See figure 4, pg. 7.
2. Loosen motor (4) mounting bolts, found underneath motor mount bracket. Slide motor in bracket slots as needed for proper tension. See figure 6. **Be sure motor shaft and pulley are aligned properly with pump before tightening motor bolts and restarting unit.**
3. Always replace all belts with the same brand, at the same time. Make sure belts are uni-matched. Do not replace belts independently.
4. Do not splash lubricating oil on belts or pulleys when adjusting or replacing belts.

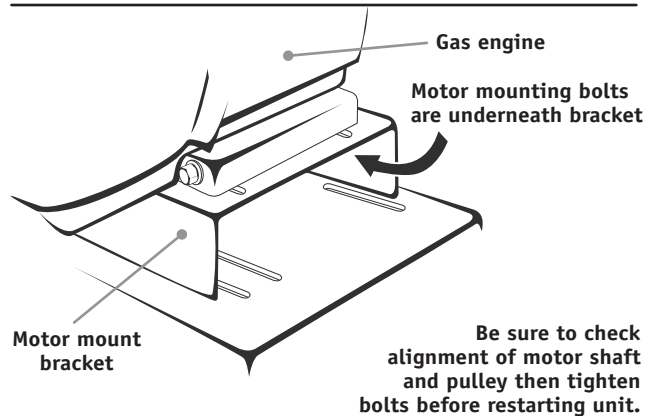


Figure 6: Move motor for belt adjustment

Changing Oil

All units are shipped with break-in oil. Change oil within first 30 hours or 10 days of operation, whichever comes first. **DO NOT use automotive type oil.**

NOTICE

Use only Airbase Industries oil (PN: APOL03000G1). Use of any other product will cause product damage and void the warranty.

Change oil every 90 days or if oil becomes milky.

High humidity and excessive temperature changes can cause moisture to form in the pump. This moisture will cause oil to break down and become milky. Be sure to check oil regularly for proper lubrication.

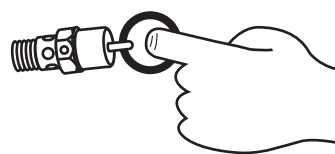
Make sure to dispose of used parts such as oil and filters in accordance with all applicable regulations.

Safety Valve

⚠ DANGER



NEVER attempt to regulate or tamper with safety valve. Valve is sealed and certified by ASME code and is designed to relieve system pressure when necessary.



Pull ring on safety valve before each use.

Check proper operation of safety valve before each use. Refer to figure 7. If valve does not open manually, **replace immediately**. Discharge pressure is generally set at 175 PSI (12.1 bar). DO NOT attempt to open valve while machine is under pressure.

Figure 7: Safety Valve

Tank

Drain daily.

Maintenance Schedule

Daily	<input type="checkbox"/> Check oil level <input type="checkbox"/> Check for unusual operation. Correct before damage occurs.	<input type="checkbox"/> Check safety valve <input type="checkbox"/> Drain tank and traps
Weekly	<input type="checkbox"/> Clean air filter <input type="checkbox"/> Change oil (<i>after first 30 hours</i>)	<input type="checkbox"/> General unit cleaning <input type="checkbox"/> Check for unusual operation. Correct before damage occurs.
Monthly	<input type="checkbox"/> Check and tighten all bolts as required <input type="checkbox"/> Check all connections for air leaks <input type="checkbox"/> Check belts for proper tension, wear, and alignment	<input type="checkbox"/> Inspect oil for contamination. Change if necessary. <input type="checkbox"/> Check all unloading lines for leaks. <i>Air leaks in unloader lines will cause unloaders and pilot valve to chatter and could cause short cycling of motor.</i>
Every 3 months	<input type="checkbox"/> Change oil	<input type="checkbox"/> Inspect valve assemblies

Notes

Troubleshooting Chart

Problem	Possible Causes	Resolutions
Engine does not start	Low/No fuel	Fill gas tank
	Clogged/leaking fuel line	Check fuel line, clean or replace as needed
	Water in fuel	Drain fuel tank then refill with fresh fuel
	Unloader valve(s) stuck	Check for proper operation, repair or replace valves if necessary.
	Spark plug not operating	Change spark plug
	Low oil shutdown feature on gas engine is activated	Add oil to engine
	Compressor pump has run dry	Add lubricating oil then check for proper operation. Replace pump if necessary.
<div> <div>NOTICE</div> <div> <i>Use only Airbase Industries oil (PN: APOL03000G1). Use of any other product will cause product damage and void the warranty.</i> </div> </div>		
Low air pressure	Pilot valve not set properly	Call Polar Air Service or local dealer to adjust valve
	Head unloader sticking	Lubricate valve with industrial grade grease
	Intake or exhaust valves not functioning properly	Repair or replace valves as needed
	Air leak(s) in system	Use soapy water to locate leaks, replace or tighten threaded parts
	Engine running too slow	Adjust throttle linkage
	Clogged air filter	Replace air filter
	Application exceeds rated air output of compressor	Check CFM requirements, change tool or use compressor with higher air output
Excessive vibration	Improper compressor mounting	Ensure tank is located on properly sized rubber padding
	Loose belts or other system component	Adjust belt tension, tighten mounting and/or other bolts as necessary
	Engine running too fast	Adjust throttle linkage

Problem	Possible Causes	Resolutions
Overheating	Excessive use	Don't use it so much man!
	Head valve(s) not seating properly	Clean or replace
	Blown cylinder head gasket(s)	Replace gasket(s)
	Restriction in head, intercooler or check valve	Clear blockage
	Low oil	Add oil. Ensure oil level is at middle of site glass. See figure 3, pg. 7.
		<div><div>NOTICE</div><div><i>Use only Airbase Industries oil (PN: AP0L03000G1). <u>Use of any other product will cause product damage and void the warranty.</u></i></div></div>
Dirt in intercooler fins or cylinder fins	Use low pressure air to blow dirt away from compressor	
Poor ventilation / ambient temperature too high	Increase ventilation around operating area. Ensure compressor has adequate clear space from walls and other possible obstructions. Ambient temperature should not exceed 110° F.	

Notes

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Warranty Statement

EATON COMPRESSOR AND FABRICATION CO., INC. (and each of its subsidiaries, including POLAR AIR COMPRESSORS, INC.) makes the following Warranties:

1. THAT EACH **ROTARY SCREW AIR COMPRESSOR PUMP** TO BE FREE FROM DEFECTS IN MATERIAL, WORKMANSHIP, AND PARTS FOR 10 YEARS ON THE ROTARY SCREW AIR COMPRESSOR PUMP FROM THE DATE OF PURCHASE. Eaton Compressor and Fabrication Co., Inc. (and each of its subsidiaries) is not responsible for downtime during warranty service. If downtime is necessary, it is the Purchaser's discretion and obligation (at Purchaser's expense) to have a redundant UNIT. This warranty applies to rotary screw rotors and bearings. The electric motor carries a five year warranty and a 2 year warranty on the rest of the compressor unit. The screw compressor MUST have Eaton Compressor and Fabrication Co., Inc. Lubricant Synthetic exclusively, the same which must be purchased from Eaton Compressor and Fabrication Co., Inc. (Mixing different brands of oil will void this warranty and cause the rotors to varnish). All air filters, oil filters, and oil separator filters must be purchased from Eaton Compressor and Fabrication Co., Inc. and the screw compressor must have Eaton Compressor and Fabrication Co., Inc. Synthetic Rotary Screw oil, purchased exclusively from Eaton Compressor and Fabrication Co., Inc., for this warranty to apply.

Annual participation in all oil programs are required by original purchaser of the unit outlined by the following:

- | | |
|---|---|
| a) Purchase an oil sample kit for oil analysis by Eaton Compressor and Fabrication Co., Inc. | mailing sample container to laboratory address provided in oil sample kit. |
| b) Oil sample kit contains 20 oil sample containers. One (1) oil sample is to be sent for analysis by an Eaton Compressor oil analysis laboratory every six (6) months so oil can be tested twice yearly. | d) The laboratory will perform an oil analysis then email a report to email address required when oil sample is provided. |
| c) Oil samples are obtained by draining 4 ozs. of oil into container then | e) Provide annual proof of purchase for oil/filter service kit. |
| | f) Maintain proper oil level in unit at all times. If the unit runs out of oil, this warranty is void. |

Failure of original purchaser to comply with any of the above conditions pertaining to oil analysis will void the complete unit warranty.

A full detailed maintenance schedule must be sent to Eaton Compressor and Fabrication Co., Inc. once a year with the total service completed quarterly, outlining each air filter, oil filter and oil change with the total hours on the unit after each maintenance was performed.

Failure to fully comply with this warranty and fully comply with the manual herein will void this warranty.

Exclusions to this warranty also include all normal wear and tear items, including, but not limited to the bearings, rotors, valves, belts, shaft seal and load/unload solenoids.

2. THAT EACH **BARE COMPRESSOR PUMP UNIT** TO BE FREE FROM DEFECTS IN MATERIAL, WORKMANSHIP, AND PARTS FOR 5 YEARS FOR THE UNIT FROM THE DATE OF PURCHASE. Eaton Compressor and Fabrication Co., Inc. (and each of its subsidiaries) is not responsible for downtime during warranty service. If downtime is necessary, it is the Purchaser's discretion and obligation (at Purchaser's expense) to have a redundant UNIT. Warranty repairs shall not include freight costs. Purchaser is responsible for returning unit to Eaton Compressor and Fabrication Co., Inc. This pump must have Eaton Compressor and Fabrication Co., Inc. lubricant Synthetic exclusively, the same which must be purchased from Eaton Compressor and Fabrication Co., Inc. (Mixing different brands of oils will void the pump warranty). A service kit must be purchased from Eaton Compressor and Fabrication Co., Inc. for this warranty to apply. Service kits contain an air filter and synthetic oil that must be changed annually. Annual proof of purchase of all oil programs must be maintained by the original purchaser of the compressor pump. If the unit runs out of oil, this warranty is void. Failure to fully comply with this warranty and fully comply with the manual herein will void this warranty.

Exclusions include: service such as OIL CHANGES, FILTER REPLACEMENTS, GASKET TIGHTENING TO CORRECT OIL SEEPAGE or DRIVE BELT TIGHTENING and VALVE CLEANING and are not covered under warranty.

Warranty shall be void under the following conditions: Failure to routinely change oil and to maintain a clean filter, or **exceeding 70% duty cycle resulting in overheating and excessive wear and tear**, or exposing electrical components to rain or water, or installing the unit in a hostile environment such as acid vapors or any caustic or abrasive matter that may be ingested into the pump, or installing the unit in an enclosed area where lack of cooling ventilation is present, such as in boiler or equipment rooms where the ambient air exceeds 100°F.

3. THAT EACH **COMPRESSOR UNIT** TO BE FREE FROM DEFECTS IN MATERIAL, WORKMANSHIP, AND PARTS FOR 5 YEARS FOR THE COMPRESSOR PUMP AND 2 YEARS ON THE REMAINDER OF THE UNIT FROM THE DATE OF PURCHASE. The UNIT also carries a 1-year labor warranty. Eaton Compressor and Fabrication Co., Inc. (and each of its subsidiaries) is not responsible for downtime during warranty service. If downtime is necessary, it is the Purchaser's discretion and obligation (at Purchaser's expense) to have a redundant compressor. Warranty repairs shall not include freight costs. Purchaser is responsible for returning unit to Eaton Compressor and Fabrication Co., Inc. This pump MUST have Eaton Compressor and Fabrication Co., Inc. Lubricant Synthetic exclusively, the same which must be purchased from Eaton Compressor and Fabrication Co., Inc. (Mixing different brands of oil will void this warranty). A service kit must be purchased from Eaton Compressor and Fabrication Co., Inc. for this warranty to apply. Service kits contain an air filter and synthetic oil that must be changed annually. Annual proof of purchase of all oil programs must be maintained by the original purchaser of the compressor unit. If the unit runs out of oil, this warranty is void. Failure to fully comply with this warranty and fully comply with the manual herein will void this warranty.

Exclusions include: service such as OIL CHANGES, FILTER REPLACEMENTS, GASKET TIGHTENING TO CORRECT OIL SEEPAGE or DRIVE BELT TIGHTENING and VALVE CLEANING and are not covered under warranty.

Warranty shall be void under the following conditions: Failure to routinely change oil and to maintain a clean filter, or **exceeding 70% duty cycle resulting in overheating and excessive wear and tear**, or exposing electrical components to rain or water, or installing the unit in a hostile environment such as acid vapors or any caustic or abrasive matter that may be ingested into the pump, or installing the unit in an enclosed area where lack of cooling ventilation is present, such as in boiler or equipment rooms where the ambient air exceeds 100°F.

4. THAT EACH **DRYER UNIT** TO BE FREE FROM DEFECTS IN MATERIAL, WORKMANSHIP, AND PARTS FOR 5 YEARS ON THE HEAT EXCHANGER AND 2 YEARS ON THE DRYER UNIT FROM THE DATE OF PURCHASE. Eaton Compressor and Fabrication Co., Inc. (and each of its subsidiaries) is not responsible for downtime during warranty service. If downtime is necessary, it is the Purchaser's discretion and obligation (at Purchaser's expense) to have a redundant DRYER UNIT. Warranty repairs shall not include freight costs. Purchaser is responsible for returning unit to Eaton Compressor and Fabrication Co., Inc. Each **DRYER UNIT** must have a coalescing filter attached to the intake of the dryer to remove any oil or dirt before air enters the dryer. Failure to install coalescing filter will void the warranty.

5. GENERAL PROVISIONS: Eaton Compressor and Fabrication Co., Inc. (and each of its subsidiaries) is not responsible for downtime during warranty service. If downtime is necessary, it is the Purchaser's discretion and obligation (at Purchaser's expense) to have a redundant compressor. Warranty repairs shall not include freight costs. If necessary, the Purchaser is responsible for returning unit and/or applicable part(s) to Eaton Compressor and Fabrication Co., Inc.

Exclusions include: service such as OIL CHANGES, FILTER REPLACEMENTS, GASKET TIGHTENING TO CORRECT OIL SEEPAGE or DRIVE BELT TIGHTENING and VALVE CLEANING and are not covered under warranty.

Further Exclusions include failure to fully and completely follow the guidelines set forth in the manual. Of specific note is where a product is used where granite and/or concrete work is performed or conditions are dusty and the product is required to be housed in a separate room from the adverse conditions where the product has access to fresh air intake.

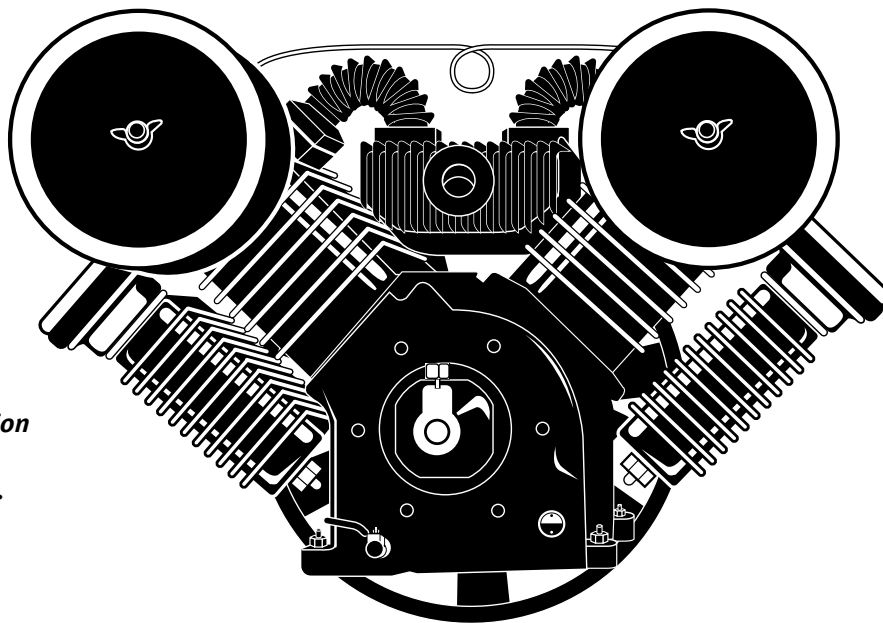
Parts used for warranty purposes must be supplied by Eaton Compressor and Fabrication Co., Inc. Warranty work will be performed by an approved Eaton Compressor and Fabrication Co., Inc. Technician. If any maintenance (other than routine maintenance) is performed by a non-approved Eaton Compressor and Fabrication Co., Inc. Technician, written pre-approval must be obtained from Eaton Compressor and Fabrication Co., Inc. to prevent voiding this Warranty. Failure to fully comply with this warranty and fully comply with the manual herein will void this warranty.

All warranties are nontransferable.

The Oil Purchase Program is effective as of January 1, 2011.

SPLASH LUBRICATED AIR COMPRESSOR PUMPS

*Airbase Industries designs and manufactures products for safe operation. However, operators and maintenance persons are responsible for maintaining safety. All safety precautions are included to provide a guideline for minimizing the possibility of accidents and property damage while equipment is in operation. **Keep these instructions for reference.***



*Unit configuration
and appearance
varies by model.*

Contents

	Page No.		Page No.
Model Specification Charts	2	Operation	6
Safety Information	3	Safety Rules	6
Tag Definitions	3	Start Up	6
Basic Guidelines	3	Maintenance	7
Breathable Air	3	Safety Steps	7
Personal Protective Equipment	3	Belt Adjustment	7
Inspection	3	Changing Oil	7
Installation	3	Maintenance Schedule	7
Area	3	Troubleshooting	8
Piping Safety Steps	4	Warranty	8
Tank Installation	4		
Pump Installation	5		

SINGLE STAGE
Splash Lubricated, Air Compressor Pumps

Model	APP2V0313S	APP3Y0518S	APP2V0732S
Description	3HP	5HP	7.5HP
CFM Displacement	13	18	32
CFM @ Pressure (100 psi)	10.2	14.1	18
Max PSI	145	145	145
Noise DB(A)	75	75	74
Outlet Connection	NPT 1/2"	NPT 1/2"	NPT 3/4"
Pump RPM	850	950	680
Bolt Pattern	8-3/16 x 4-5/8	8-1/4 x 5-1/4	10-1/4 x 5-3/8
Dimensions <small>L•W•H (inches)</small>	15 x 10 x 13	18 x 15 x 12	18 x 15 x 12
Weight (lbs.)	60	75	121
Belt Type (A or B)	A	A	B
Number of Belts	1	2	2

TWO STAGE
Splash Lubricated, Air Compressor Pumps

Model	APP3Y0521T	APP2I0524T	APP3Y0732T	APP4V1043T	APP3Y1544T	APP3Y2062T	APP4V2598T
Description	5HP - 3cyl	5HP- 2cyl	7.5HP	10HP	15HP	20HP	25HP
CFM Displacement	21	24	32	43	44	62	98
CFM @ Pressure (100 psi)	18	17	24	34	35	52	91
Max PSI	175	175	175	175	175	175	175
Noise DB(A)	74	75	75	75	75	75	79
Outlet Connection	NPT 3/4"	NPT 3/4"	NPT 3/4"	NPT 3/4"	NPT 1-1/4"	NPT 1-1/4"	NPT 1-1/4"
Pump RPM	895	795	830	600	640	640	710
Bolt Pattern	9-7/8 x 6-1/2	7-3/4 x 9	9-7/8 x 6-1/2	9-1/4 x 9-1/4	13-1/2 x 6-3/4	13-1/2 x 6-3/4	13-5/8 x 12 5/8
Dimensions <small>L•W•H (inches)</small>	25 x 13 x 18	16 x 14 x 19	25 x 13 x 18	28 x 21 x 21	27 x 14 x 27	27 x 14 x 27	38 x 29 x 26
Weight (lbs.)	133	180	149	282	321	369	684
Belt Type (A or B)	B	B	B	B	B	B	B
No. of Belts	2	2	2	2	3	3	4

Safety

This manual contains very important information to know and understand. This is provided for SAFETY and to PREVENT EQUIPMENT PROBLEMS. To help understand this information, observe the following:

⚠ DANGER Danger indicates an imminently hazardous situation which, if not avoided, *will* result in death or serious injury.

⚠ WARNING Warning indicates a potentially hazardous situation which, if not avoided, *could* result in death or serious injury.

⚠ CAUTION Caution indicates a potentially hazardous situation which, if not avoided, *may* result in minor or moderate injury.

NOTICE Notice indicates important information, that if not followed, may cause damage to equipment.



Read all manuals included with this product carefully. Be thoroughly familiar with the controls and the proper use of the equipment.

Basic Guidelines

1. Allow only trained, authorized persons who have read and understood these operating instructions to use this compressor pump. Failure to follow the instructions, procedures and safety precautions in this manual can result in accidents and injuries.
2. NEVER start or operate the compressor pump under unsafe conditions. Tag the compressor, disconnect and lock out all power to it to prevent accidental start-up until the condition is corrected.
3. Install, use and operate the compressor pump only in full compliance with all pertinent OSHA regulations and all applicable Federal, State & Local Codes, standards and regulations.
4. NEVER modify the compressor pump and/or controls in any way.
5. Keep a first aid kit in a convenient place. Seek medical assistance promptly in case of injury. Avoid infection by caring for any small cuts and burns promptly.

Breathable Air

1. NEVER use air from this compressor pump for breathable air except in full compliance with OSHA Standards 29 CFR 1910 and any other Federal, State or Local codes or regulations.

⚠ DANGER



Death or serious injury can result from inhaling compressed air without using proper safety equipment. See OSHA standards on safety equipment.

2. DO NOT use air line anti-icer systems in air lines supplying respirators or other equipment used to produce breathable air. DO NOT discharge air from these systems in unventilated or other confined areas.

Personal Protective Equipment

Be sure all operators and others around the compressor and its controls comply with all applicable OSHA, Federal, State and Local regulations, codes and standards relating to personal protective equipment. This includes respiratory protective equipment, protection for the extremities, protective clothing, protective shields and barriers, electrical protective equipment, and personal hearing protective equipment.

Inspection

⚠ WARNING



Inspect compressor pump prior to any use. Check for external damage that might have occurred during transit. Be careful of moving parts then test pulley by turning it freely by hand. Report any damage to delivery carrier immediately.

⚠ WARNING

Do not operate unit if damaged during shipping, handling or use. Damage may result in bursting and cause injury or property damage.

Installation

Area

1. Install compressor pump in a clean, dry and well-lit area. Be sure installation area can maintain a temperature range between 35° - 110° F.
2. Insulate cold water or other low temperature pipes that pass overhead to avoid condensation dripping on compressor which could cause rust and/or motor shorting.

⚠ DANGER



DO NOT install compressor in boiler room, paint spray room, or area where sandblasting occurs. Make sure inlet air is away from exhaust fumes or other toxic, noxious or corrosive fumes or substances.

3. If acid is used in operating environment or air is dust laden, pipe intake to outside, fresh air. Increase pipe size by one size for every 20 feet of run. Be sure to install protective hood around intake filter.
4. In operating environments where excessive water, oil, dirt, acid or alkaline fumes are present, a TEFC (totally enclosed, fan cooled) motor is recommended. Check nameplate for motor type.
5. Allow sufficient space around compressor pump for maintenance access. Mount unit with pulley towards wall and leave a minimum of 15 inches of clearance.
6. Use shims to level compressor if installation area is not flat. This will avoid excessive vibration and premature pump wear.

Piping

Safety Steps

1. Install appropriate flow-limiting valves as necessary according to pipe size(s) used and run lengths. This will reduce pressure in case of hose failure, per OSHA Standard 29 CFR 1926.302(b)(7).
2. Flow-limiting valves are listed by pipe size and rated CFM. Select appropriate valves accordingly, in accordance with the manufacturer's recommendations.

Tank Installation

1. Place tank feet on 1/4" thick rubber pads. Thicker padding will increase vibration and the possibility of cracking the tank or other unit damage. **Do not place unit on dirt floor or uneven surface.**
2. Fasten anchor bolts snugly but do not overtighten so normal vibration will not damage unit.

⚠ DANGER *Compressor unit is top heavy and must be bolted to solid, flat surface to avoid falling and premature pump wear. Splash lubrication will not operate properly if unit is not level.*

Pump Installation

1. Mount pump to deck of tank then connect main feed port to check valve in tank. See figure 1.
2. For units with centrifugal unloader system, install 1/4" copper tubing from 90° elbow (located in front of crankcase) to the unloader port of check valve.

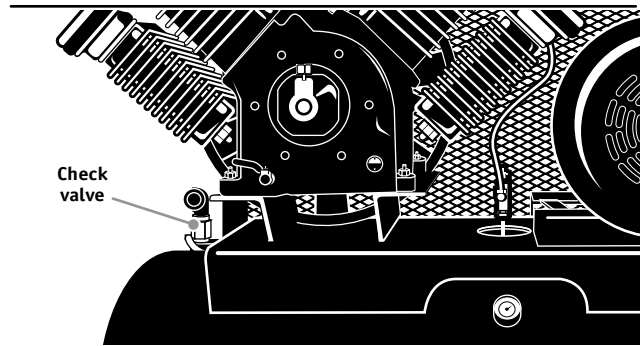


Figure 1: Connect feed port to check valve

NOTE: If pump is not equipped with centrifugal unloader, install an unloader line from the check valve unloader port to the unloader port of the pressure switch. This will relieve head pressure when unit stops and provide no-load restarting.

3. Cap fitting on cylinder heads if not using pilot valve for continuous run port.
4. Make sure there is a 1/4" copper tube (unloader tube) installed from tank check valve to unloader on pressure switch. This relieves head pressure when compressor stops for easier restart. See figure 2.

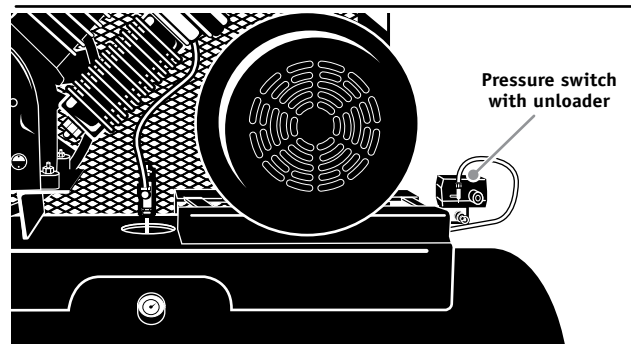


Figure 2: Install unloader line from check valve to pressure switch

5. Use proper pulley for motor. Refer to Pulley Size Chart for correct sizing.
6. Install belts. There should be 1/2" slack for proper belt tension. See figure 3.
7. Use a flexible connector between compressor tank and piping system to minimize noise, vibration, unit damage, and pump wear.

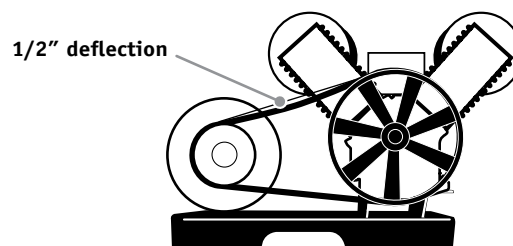


Figure 3: Proper belt tension

Pulley Size Chart
(Pulley size in inches)

Pump Model No.	Electric Motor - Hp	1750 RPM 4 Pole Motor	3450 RPM 2 Pole Motor	Gas Engine Hp	Gas Engine Pulley Size
APP2V0313S	3	5.5	2.75	5.5	3
APP3Y0518S	3	5.5	2.75	6.5	3
APP3Y0518S	5	5.75	2.75	6.5	3
APP3Y0521T	5	7	3.5	8	3.5
APP2V0732S	5	5.5	2.75	8	3
APP2I0524T	5	7.7	3.8	11	4
APP3Y0732T	5	6	3	11	3
APP3Y0732T	7.5	7	3.5	13	4
APP4V1043T	7.5	6.4	3.2	13	3.2
APP4V1043T	10	8.8	4.4	18	4.4
APP3Y1544T	10	9	4.5	24	4.5
APP3Y2062T	15	9	4.5	28	4.5
APP4V2598T	20	9	4.5	40	4.5
APP4V2598T	25	11.5	5.8	50	5.8

NOTICE

Splash lubricated pumps require 550 RPM for proper lubrication. Be sure to size motor and engine pulleys correctly.

8. Install appropriate ASME code safety valves and make sure piping system is equipped with adequate condensate drains. See figure 4.

⚠ WARNING

Never install a shut-off valve such as a glove or gate valve, between the pump discharge and the air tank unless a safety valve is installed in the line between valve and pump.

9. Make sure any tube, pipe or hose connected to the unit can withstand operating temperatures and retain pressure.

⚠ WARNING

Never use plastic (PVC) pipe for compressed air. Serious injury or death could result.

10. Never use reducers in discharge piping. Keep all piping and fittings the same size in the piping system.
11. For permanent installations of compressed air systems, determine total length of system and select correct pipe size. Make sure underground lines are buried below frost line and avoid areas where condensation could build up and freeze.

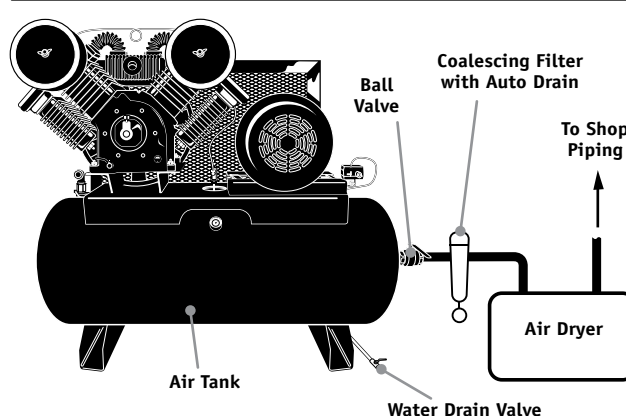


Figure 4: Basic Piping Diagram

Minimum Pipe Size For Compressed Air Lines
(Pipe size shown in inches)

SCFM	Length Of Piping System			
	25 ft.	50 ft.	100 ft.	250 ft.
20	3/4	3/4	3/4	1
40	3/4	1	1	1
60	3/4	1	1	1
100	1	1	1	1-1/4
125	1-1/4	1-1/4	1-1/2	1-1/2

12. Test entire piping system *before* underground lines are buried. Be sure to find and repair all leaks before using compressor.

▲ WARNING *Never exceed recommended pressure or speed while operating compressor.*

▲ WARNING *Be sure to install beltguard on compressor unit after pump installation is complete.*



Operation

Safety Rules

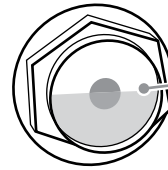
1. Make sure all operators receive product training, read and understand all instructions.

▲ WARNING *Keep all flammable, combustible, poisonous and noxious materials away from operating area. Make sure there are no oily rags, trash, leaves, litter or other combustible materials in operating area. Keep*



suitable, fully charged fire extinguishers nearby when servicing and operating the compressor.

2. **NEVER** allow modifications to compressor structure or controls.
3. Keep all ignition sources away from exposed electrical parts.
4. Keep all persons clear of compressor during start-up and operation.
5. NEVER operate the compressor with the fan, coupling or other guards removed.
6. DO NOT engage in horseplay with air hoses as death or serious injury may result.
7. Make sure to provide adequate ventilation and use proper lubricant while operating the compressor. If lubricant or other combustible substances are spilled, clean up immediately.
8. When checking or adding lubricant or when re-filling air line anti-icer systems with antifreeze compound, shut off compressor and allow it to cool. Keep sparks, flames and other ignition sources away and DO NOT permit smoking in the vicinity.
9. Stop compressor and disconnect power if a hazardous condition arises.
10. Wear snug fitting clothing and confine long hair when around compressor. Keep all body parts and clothing away from couplings, flywheel and other moving parts of the equipment.



Oil level should be to center of red circle in site glass

Figure 5: Check proper oil level

▲ WARNING *Keep all persons away from the discharge opening of hoses or tools or other points of compressed air discharge. If the machine is installed in an enclosed area, be sure to vent the relief valve outside of the structure or to an unoccupied area.*



11. DO NOT use air tools that are rated below the maximum rating of the compressor. Select air tools, air hoses, pipes, valves, filters and other fittings accordingly. DO NOT exceed manufacturer's rated safe operating pressures for these items.
12. Make sure all hose connections are adequately secured to prevent tools or hose ends from being accidentally disconnected.

Start-Up

1. This unit may or may not contain oil when shipped. Be sure to check for proper oil level before operating the compressor. Oil should be in center of site glass. See figure 5.

NOTICE *Use only Airbase Industries oil (PN: AP0L03000G1). Use of any other product will cause product damage and void the warranty.*

2. Check for proper belt tension. There should be 1/2 inch slack. Refer to figure 3, pg. 4.

▲ WARNING *Always make sure main power is off before touching belts or other moving parts of compressor.*



3. Push power switch to make sure system is working.
4. Ensure motor rotation is correct. Refer to unit operating instructions if necessary.

Maintenance

Safety Steps

⚠ WARNING



Disconnect, tag and lock out power source then release all pressure from the system before attempting to install, service, relocate or perform ANY maintenance.

1. Make sure repairs are done in a clean, dry, well lighted and ventilated area.
2. When cleaning, use air pressure less than 30 psig (2.1bar). NEVER use flammable solvents for cleaning purposes. Also use effective chip guarding and personal protective equipment per OSHA standard 29 CFR 1910.242 (b).
3. Relieve all internal pressure prior to opening any line, fitting, hose, valve, drain plug, connection or other component, such as filters and line oilers, and before refilling optional air line anti-icer systems with antifreeze compound.

⚠ CAUTION



Compressor components can become hot during operation. Avoid bodily contact with hot liquids, hot surfaces and sharp edges and corners.

Belt Adjustment

⚠ WARNING



Be sure to relieve all system pressure then lock out power and tag compressor to prevent unexpected movement of the unit.

Inspect belt tension after first 30 hours of operation then every 30 days.

1. Proper belt tension is determined by pressing on belt midway between motor pulley and flywheel. There should be approximately 1/2 inch of deflection. Refer to figure 3, pg. 4.
2. Always replace all belts with the same brand, at the same time. Make sure belts are uni-matched. Do not replace belts independently.
3. Do not splash lubricating oil on belts or pulleys when adjusting or replacing belts.

Changing Oil

Some units are shipped with break-in oil. Change oil within first 50 hours or 30 days of operation, whichever comes first. **DO NOT use automotive type oil.**

NOTICE

Use only Airbase Industries oil (PN: APOL03000G1). Use of any other product will cause product damage and void the warranty.

Change oil every 90 days or if oil becomes milky.

High humidity and excessive temperature changes can cause moisture to form in the pump. This moisture will cause oil to break down and become milky. Be sure to check oil regularly for proper lubrication. Make sure to dispose of used parts such as oil and filters in accordance with all applicable regulations.

Maintenance Schedule

Daily	<input type="checkbox"/> Check oil level <input type="checkbox"/> Check for unusual operation. Correct before damage occurs.	<input type="checkbox"/> Check safety valve <input type="checkbox"/> Drain tank and traps
Weekly	<input type="checkbox"/> Clean air filter <input type="checkbox"/> Change oil (after first 50 hours)	<input type="checkbox"/> General unit cleaning <input type="checkbox"/> Check for unusual operation. Correct before damage occurs.
Monthly	<input type="checkbox"/> Check and tighten all bolts as required <input type="checkbox"/> Check all connections for air leaks <input type="checkbox"/> Check belts for proper tension, wear, and alignment	<input type="checkbox"/> Inspect oil for contamination. Change if necessary. <input type="checkbox"/> Check all unloading lines for leaks. <i>Air leaks in unloader lines will cause unloaders and pilot valve to chatter and could cause short cycling of motor.</i>
Every 3 months	<input type="checkbox"/> Change oil	<input type="checkbox"/> Inspect valve assemblies

Troubleshooting Chart

Problem	Possible Causes	Resolutions
Low air pressure	<ol style="list-style-type: none"> 1. Clogged inlet filter 2. Air leak(s) in system 3. Application exceeds rated air output of compressor 4. Cylinder head valves not sealing 5. Insufficient power 	<ol style="list-style-type: none"> 1. Disassemble valve, clean thoroughly 2. Use soapy water to locate leaks, replace or tighten threaded parts 3. Check CFM requirements, change tool or use compressor with higher air output 4. Remove valves from cylinder head, repair or replace as necessary 5. Check power supply, rewire as necessary
Overheating	<ol style="list-style-type: none"> 1. Duty cycle exceeded 2. Improper rotation 3. Head valve(s) not seating properly 4. Blown cylinder head gasket(s) 5. Restriction in head, intercooler or check valve 6. Low oil 7. Dirt in intercooler fins or cylinder fins 8. Poor ventilation / ambient temperature too high 	<ol style="list-style-type: none"> 1. Keep duty cycle at 60/40 to maintain pump life 2. When facing flywheel, ensure counter-clockwise rotation 3. Clean or replace 4. Replace gasket(s) 5. Clear blockage 6. Add oil. Ensure oil level is at middle of sight glass. See figure 5, pg. 6. 7. Use low pressure air to blow dirt away from compressor 8. Increase ventilation around operating area. Ensure compressor has adequate clear space from walls and other possible obstructions. Ambient temperature should not exceed 110° F.

NOTICE

Use only Airbase Industries oil (PN: APOL03000G1). Use of any other product will cause product damage and void the warranty.

Airbase Industries makes the following WARRANTY STATEMENT:

1. THAT EACH **BARE COMPRESSOR PUMP UNIT** TO BE FREE FROM DEFECTS IN MATERIAL, WORKMANSHIP, AND PARTS FOR 2 YEARS FOR THE UNIT FROM THE DATE OF PURCHASE. Airbase Industries (and each of its subsidiaries) is not responsible for downtime during warranty service. If downtime is necessary, it is the Purchaser's discretion and obligation (at Purchaser's expense) to have a redundant COMPRESSOR PUMP. Warranty repairs shall not include freight costs. Purchaser is responsible for returning unit to Airbase Industries. This PUMP MUST have Airbase Industries Lubricant Synthetic exclusively, the same which must be purchased from Airbase Industries. (Mixing different brands of oil will void this warranty). A service kit must be purchased from Emax or an Emax dealer for this warranty to apply. Service kits contain an air filter and synthetic oil that must be changed annually. Annual proof of purchase of all oil programs must be maintained by the original purchaser of the compressor pump. If the unit runs out of oil, this warranty is void. Failure to fully comply with this warranty and fully comply with the manual herein will void this warranty.

Exclusions include: service such as OIL CHANGES, FILTER REPLACEMENTS, GASKET TIGHTENING TO CORRECT OIL SEEPAGE or DRIVE BELT TIGHTENING and VALVE CLEANING and are not covered under warranty.

Warranty shall be void under the following conditions: Failure to routinely change oil and to maintain a clean filter, or **exceeding 70% duty cycle resulting in overheating and excessive wear and tear**, or exposing electrical components to rain or water, or installing the unit in a hostile environment such as acid vapors or any caustic or abrasive matter that may be ingested into the pump, or installing the unit in an enclosed area where lack of cooling ventilation is present, such as in boiler or equipment rooms where the ambient air exceeds 100°F.

Airbase Industries shall not be held liable for any malfunction of **BARE COMPRESSOR PUMP UNIT** caused by failure or improper use and/or maintenance of other compressor components manufactured by others.

2. GENERAL PROVISIONS: Airbase Industries (and each of its subsidiaries) is not responsible for downtime during warranty service. If downtime is necessary, it is the Purchaser's discretion and obligation (at Purchaser's expense) to have a redundant compressor. Warranty repairs shall not include freight costs. If necessary, the Purchaser is responsible for returning unit and/or applicable part(s) to Airbase Industries.

Exclusions include: service such as OIL CHANGES, FILTER REPLACEMENTS, GASKET TIGHTENING TO CORRECT OIL SEEPAGE or DRIVE BELT TIGHTENING and VALVE CLEANING and are not covered under warranty.

Further Exclusions include failure to fully and completely follow the guidelines set forth in the manual. Of specific note is where a product is used where granite and/or concrete work is performed or conditions are dusty and the product is required to be housed in a separate room from the adverse conditions where the product has access to fresh air intake.

Parts used for warranty purposes must be supplied by Airbase Industries. Warranty work will be performed by an approved Airbase Industries Technician. If any maintenance (other than routine maintenance) is performed by a non-approved Airbase Industries Technician, written pre-approval must be obtained from Airbase Industries to prevent voiding this Warranty. Failure to fully comply with this warranty and fully comply with the manual herein will void this warranty. All warranties are nontransferable.

The Oil Purchase Program is effective as of January 1, 2011.

Owner's Manual



Introduction

In order to receive maximum performance and long life from your compressor, the following instructions should be carefully read and all points regarding installation and operation of the unit should be noted and observed. A careful reading of this manual, prior to connecting anything to the motor of the compressor, will pay dividends in terms of trouble-free operation.

Inspection

Check for possible damage in transit and see that the pulley turns freely by hand. **Report any damage to the delivery carrier at once.**

Location

Select a clean, dry, and well-lit location. In cold climates, the compressor should be installed in a heated building. Insulate cold water or other low temperature pipes that pass overhead to avoid the possible collection and dripping of condensate onto the compressor and motor that could cause rusting or the motor shorting out. **DO NOT** install the compressor in a boiler room, paint spray room, or area where sandblasting is carried on. If air in the area where the compressor is to be installed is acid or dust laden, the compressor intake should be piped to the outside. This intake pipe should increase in size for every twenty (20) feet of run and the intake filters should be installed at the end of the pipes with a hood to protect them from the elements. **Special size** filters are required for that pipe.

If the compressor has to be located where the motor will be exposed to appreciable quantities of water, dirt, oil, acid, or alkaline fumes, the motor must be of special construction to avoid rapid deterioration; i.e. TEFC

Unless the base is exactly level, shims will be required. Any space between the base and foot of the tank should be shimmed rather than drawing the foot down, thus placing strain on the unit. When is properly shimmed, vibration will be at a minimum. Also use a ¼" or less rubber pad under each foot to help with vibration.

Allow sufficient space around the compressor so that it is accessible from all sides for maintenance. Mount the unit with the pulley side toward the wall, but at least 18 inches from it.

Hooking up the pump

- Mount pump to the deck of the tank. We recommend using angle iron to raise the pump above the deck, to allow for better crankcase cooling.
- Hook up main feed tube from the 3/4" flare fitting to the check valve in the tank.



- Don't hook up the ¼" copper tubing on the top of the cylinder heads unless using a pilot valve.



- Make sure there is a tube from the check valve in the tank to the unloader on the pressure switch. This will relieve the head pressure when the compressor stops. This will make it easier for the motor when the compressor goes to restart.
- Fill crankcase with Mobil Rarus 427 or any non-detergent 30 weight air compressor oil to the center of the sight glass.



- Size the correct pulley for your motor. Use a 3 1/2" pulley on a 3450 rpm motor and a 7" pulley on a 1750 rpm motor.
- Install your belts. There should be a 1/2" of play on the belt tension.
- Turn on the motor and check for proper rotation. The pump **must** run counter clockwise when facing the pulley side of the compressor.

Air intake

The compressor pumps are equipped with intake filters that require no piping. If it necessary to pipe the intake outdoors, see paragraph 3, "Location"

Pipe Connection

A flexible connector should be used between the compressor tank and building piping or connection to after cooler or other similar equipment in order to minimize noise, vibration, vibration damage, and wear and tear.

Caution

- Never install a shut-off valve, such as a glove or gate valve, between the compressor and discharge opening and the receiver unless a safety valve is installed in the line between this valve and the compressor.
- Never operate the pump at pressures or speeds in excess of those recommended by the factory. (900rpm or 175 psi)

Tank

Tank feet should be placed on vibration isolator pads available through your dealer. Anchor bolts should be gently snugged, but not tight, to allow for vibration. Remember, the bolt is only a guide to hold the compressor in place. Do not over tighten the legs of the tank against the pads...it will damage your tank. **Caution:** Do not set tank on dirt. Over time, the tank will tilt causing the pump to fail from inadequate lubrication.

Starting

- Check the oil level before starting
- Turn compressor over a few revolutions by hand to make sure that everything is free.
- Check the belt tension
- Remove tools, rags, and any other objects from the vicinity of the compressor
- Never put hands on the belt of idle units, unless the motor is switched off and locked out
- Note the direction of the arrow on the flywheel and be sure that the direction of rotation is correct when the machine is started. Correct direction is counter-clockwise when standing facing the flywheel. Air should be drawn through the intercooler onto the cylinders for maximum cooling.

Operation and Care

Service

Oil should be changed within the first 50 hours or 30 days of use, whichever comes first. Use a Mobil Rarus 427 or any non-detergent 30 weight air compressor oil. **Warning!!** Under no circumstances should you use AUTOMOTIVE TYPE OIL. Repeat-**DO NOT USE AUTOMOTIVE OIL.**

- Oil should be changed every 90 days. Oil level should be at the halfway level in the sight glass.
- If oil is milky, it should be changed
- Inspect air filters weekly and change as needed



Daily Care

- Check oil level in crankcase and, if necessary, add sufficient oil to bring to (but not above) halfway level on the sight glass (without the motor running)
- Drain air receiver, drop legs
- Stop, look, and listen a moment for any unusual noise, failure to compress, overheating, vibration, or belt slippage. Correct before damage of a serious nature can develop.

Monthly Care

- Check and tighten all bolts as required
- Check air connections and joints for leaks
- Check “V” belts for any possible misalignment and tightness

Maintenance-Trouble Shooting-Repairs

SLOW PUMPING OR INSUFFICIENT PRESSURE CAN BE CAUSED BY:

- Clogged inlet filter-(disassemble and clean thoroughly)
- Leaks in airlines, valves, fittings, etc.-(Located using soapy water if necessary; replace or tighten threaded parts)
- Compressor too small for equipment being operated-(Check air requirements and add to compressor capacity-**consult dealer**)
- Leaking head valves-(Remove hold-down covers and remove valves for examination. Repair or replace faulty valves)

Overheating

Compression of air generates heat, much of which is dissipated as air passes over the intercooler and/or after cooler. Overheating can be caused by:

- Pump running backwards- (reverse rotation) Proper rotation is counter clockwise when facing the flywheel
- One or more head valves is failing to seat properly
- Blown cylinder head gasket
- Restriction in head, intercooler, or check valve
- Lack of oil-(check oil level)
- Dirt in intercooler fins or cylinder fins-(blow out with air)
- Poor ventilation and high-room temperature.

LIMITED FIVE-YEAR WARRANTY

EATON COMPRESSOR & FABRICATION WARRANTS EACH COMPRESSOR UNIT TO BE FREE FROM DEFECTS IN MATERIAL, WORKMANSHIP, AND PARTS FOR 5 YEARS ON THE COMPRESSOR FROM THE DATE OF PURCHASE. (Eaton

Compressor & Fabrication is not responsible for downtime during warranty service. If downtime is necessary, Purchaser is required to have redundant compressor.) Warranty repairs shall not include freight costs. Purchaser is responsible for returning unit to Eaton Compressor.

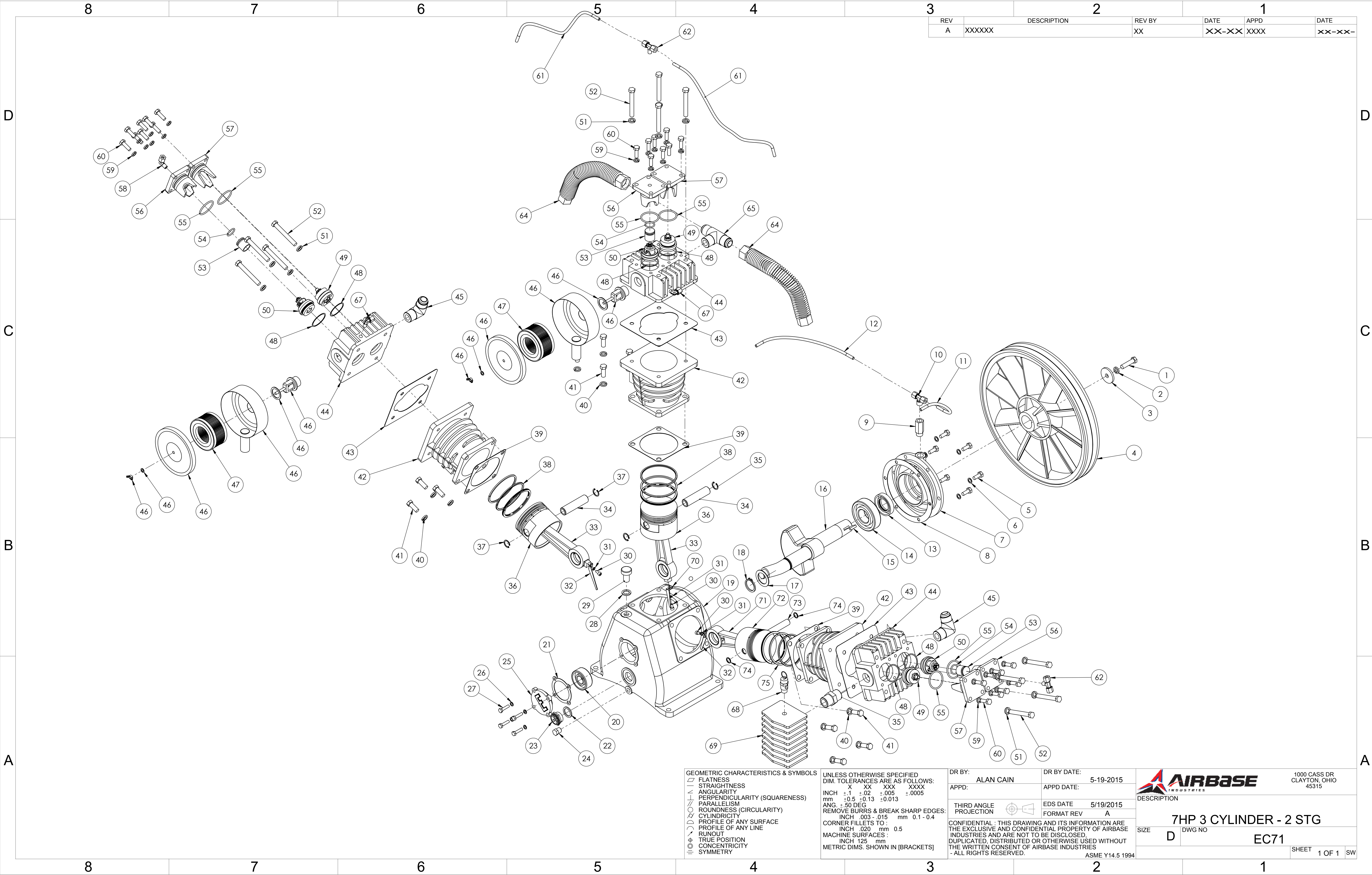
Service such as OIL CHANGES, FILTER REPLACEMENTS, GASKET TIGHTENING TO CORRECT OIL SEEPAGE or DRIVE BELT TIGHTENING and VALVE CLEANING are not covered under warranty.

Warranty shall be void under the following conditions:

- Failure to routinely change oil and to maintain a clean filter.
- **Exceeding 65% duty cycle resulting in overheating and excessive wear and tear.**
- Exposing electrical components to rain or water.
- Installing the unit in a hostile environment such as acid vapors or any caustic or abrasive matter that may be ingested into the pump.
- Installing the unit in an enclosed area where lack of cooling ventilation is present. such as in boiler or equipment rooms where the ambient air exceeds 100°F.
- Parts used for warranty purposes must be supplied by Eaton Compressor.

Warranty work will be performed by an approved Eaton Compressor Technician.

Eaton Compressor & Fabrication 1000 Cass Drive, Clayton, Ohio 45315 (877) 283-7614



REV	DESCRIPTION	REV BY	DATE	APPD	DATE
A	XXXXXX	XX	XX-XX-XX	XXXX	XX-XX-XX

GEOMETRIC CHARACTERISTICS & SYMBOLS			
	FLATNESS		
	STRAIGHTNESS		
	ANGULARITY		
	PERPENDICULARITY (SQUARENESS)		
	PARALLELISM		
	ROUNDNESS (CIRCULARITY)		
	CYLINDRICITY		
	PROFILE OF ANY SURFACE		
	PROFILE OF ANY LINE		
	RUNOUT		
	TRUE POSITION		
	CONCENTRICITY		
	SYMMETRY		

UNLESS OTHERWISE SPECIFIED DIM. TOLERANCES ARE AS FOLLOWS:			
INCH	±.1	±.02	±.005
mm	±0.5	±0.13	±0.013
ANG.	±.50	DEG	
REMOVE BURRS & BREAK SHARP EDGES:			
INCH	.003	.015	mm 0.1 - 0.4
CORNER FILLETS TO:			
INCH	.020	mm	0.5
MACHINE SURFACES:			
INCH	125	mm	
METRIC DIMS. SHOWN IN [BRACKETS]			

DR BY:	ALAN CAIN	DR BY DATE:	5-19-2015
APPD:		APPD DATE:	
THIRD ANGLE PROJECTION		EDS DATE	5/19/2015
		FORMAT REV	A
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ASME Y14.5 1994			

		1000 CASS DR CLAYTON, OHIO 45315	
DESCRIPTION			
7HP 3 CYLINDER - 2 STG			
SIZE	D	DWG NO	EC71
		SHEET	1 OF 1 SW

EC71 (7HP 3 CYL.) PARTS IN DETAILS

Item	Part No.	NAME	UNIT	QTY	Item	Part No.	NAME	UNIT	QTY
1	BOLT031	BOLT, HEX, M10-1.50-40MM	PCS	1	39	GASKET024	CYLINDER GASKET	PCS	3
2	WASHER009	WASHER, LOCK, 10MM	PCS	1	40	WASHER009	10MM LOCK WASHER	PCS	12
3	WASHER028	WASHER, FLYWHEEL	PCS	1	41	BOLT037	HEX HEAD 10M-1.50-25MM	PCS	12
4	FLYWHEEL006	FLYWHEEL	PCS	1	42	CYLINDER006	LOW PRESSURE CYLINDER	PCS	2
5	BOLT022	BOLT, HEX, M8-1.25-20MM	PCS	6	43	GASKET023	HEAD GASKET	PCS	3
6	WASHER013	WASHER, COPPER, 8MM	PCS	6	44	HEAD009	LOW PRESSURE HEAD	PCS	2
7	COVER024	FRONT CRANKCASE COVER	PCS	1	45	ELBOW009	EXHAUST ELBOW	PCS	2
8	GASKET099	FRONT COVER GASKET	PCS	1	46	FILTERASSY004	AIR FILTER HOUSING ASSEMBLY	PCS	2
9	BREATHER004	BREATHER HOUSING	PCS	1	47	FILTER056	AIR FILTER ELEMENT	PCS	2
10	TEE006	¾ PIPE TO 6MM FLARE TEE	PCS	1	48	GASKET021	COPPER VALVE GASKET	PCS	6
11	LINE120	LEFT SIDE VENT TUBE	PCS	1	49	VALVE038	EXHAUST VALVE ASSEMBLY	ASSY	3
12	LINE121	RIGHT SIDE VENT TUBE	PCS	1	50	VALVE045	INTAKE VALVE ASSEMBLY	PCS	3
13	SEAL008	CRANKSHAFT SEAL	PCS	1	51	WSASHER009	10MM LOCK WASHER	PCS	12
14	BEARING004	CRANK BEARING LARGE	PCS	1	52	BOLT038	HEX HEAD 10M-1.5-75MM	PCS	12
15	KEY004	CRANKSHAFT KEY	PCS	1	53	PLUNGER007	CONTINUOUS RUN PLUNGER	PCS	3
16	CRANK005	CRANKSHAFT	PCS	1	54	ORING010	ORING FOR CR PLUNGER	PCS	3
17	WASHER027	CRANKSHAFT WASHER	PCS	1	55	ORING004	STOPPER ORING	PCS	6
18	RING024	CRANKSHAFT SNAP RING	PCS	1	56	STOPPER006	INTAKE STOPPER	PCS	3
19	CRANKCASE004	CRANKCASE	PCS	1	57	STOPPER005	EXHAUST STOPPER	PCS	3
20	BEARING017	CRANKSHAFT BEARING SMALL	PCS	1	58	ELBOW006	ELBOW 1/8 PIPE TO 6MM FLARE	PCS	3
21	GASKET081	BEARING COVER GASKET	PCS	1	59	WASHER017	8MM LOCK WASHER	PCS	24
22	GASKET089	SIGHTGLASS GASKET	PCS	1	60	BOLT023	HEX HEAD 8M-1.25-25	PCS	24
23	SIGHTGLASS006	OIL SIGHTGLASS	PCS	1	61	LINE122	HEAD UNLOADING LINE	PCS	2
24	PLUG010	OIL DRAIN PLUG	PCS	1	62	TEE005	1/8 PIPE TO 6MM FLARE TEE	PCS	2
25	COVER025	CRANKCASE COVER	PCS	1	63	N/A	N/A		
26	WSASHER016	6MM LOCK WASHER	PCS	4	64	LINE119	FINNED EXHAUST LINE	PCS	2
27	BOLT021	6M-1-20MM	PCS	4	65	TEE007	EXHAUST TEE	PCS	1
28	GASKET088	OIL FILL GASKET	PCS	1	66	N/A	N/A		
29	PLUG008	OIL FILL PLUG	PCS	1	67	ELBOW006	ELBOW 1/8 PIPE TO 6MM FLARE	PCS	2
30	BOLT029	S-H BOLT 5M-.75-10MM	PCS	3	68	VALVE008	200 PSI POP-OFF VALVE	PCS	1
31	WASHER019	5M LOCK WASHER	PCS	3	69	COOLER015	AFTERCOOLER	PCS	1
32	DIPPER002	OIL DIPPER ANGLED	PCS	2	70	DIPPER006	STRAIGHT DIPPER	PCS	1
33	ROD002	LOW PRESSURE CONNECTING ROD	PCS	2	71	ROD003	HIGH PRESSURE CONNECTING ROD	PCS	1
34	PIN011	LOW PRESSURE WRIST PIN	PCS	2	72	PISTON006	HIGH PRESSURE PISTON	PCS	1
35	CONNECTOR040	AFTERCOOLER CONNECTOR	PCS	1	73	PIN012	HIGH PRESSURE WRIST PIN	PCS	1
36	PISTON005	LOW PRESSURE PISTON	PCS	2	74	RING020	HIGH PRESSURE PISTON SNAP RING	PCS	2
37	RING019	LOW PRESURE PISTON SNAP RING	PCS	4	75	RING005	HIGH PRESSURE PISTON RING SET	SET	1
38	RING006	LOW PRESSURE PISTON RING SET	SET	2					